

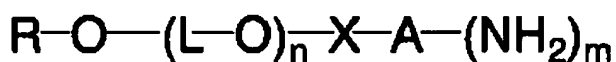
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (withdrawn-currently amended): A microcapsule produced using at least an isocyanate compound, wherein the isocyanate compound is a reaction product of (A) a compound having at least two isocyanate groups in a molecule with (B) a polyether derivative compound having two or more functional groups each having an active hydrogen atom at one terminal thereof and a polyether moiety that has a degree of polymerization in the range of 10 to 500.

2. (withdrawn-currently amended): A The microcapsule according to claim 1, wherein the polyether derivative compound is represented by the following ~~general~~-formula (1):



~~General~~-formula (1)

wherein X represents a single bond, -CO- or -SO₂-; A represents an arenetriyl or arenetetrayl group, or an alkanetriyl or alkanetetrayl group based on the selection of m selected from 2 or 3; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; and n is an integer from 10 to 500.

3. (withdrawn-currently amended): A The microcapsule according to claim 2, wherein A in ~~general~~-formula (1) is an arenetriyl group having two NH₂ groups as substituents

and having 6 to 30 carbon atoms in total, or an arenetetrayl group having three NH₂ groups as substituents and having 6 to 30 carbon atoms in total.

4. (withdrawn-currently amended): A The microcapsule according to claim 2, wherein A in general-formula (1) is an alkanetriyl group having two NH₂ groups as substituents and having 1 to 30 carbon atoms in total, or an alkanetetrayl group having three NH₂ groups as substituents and having 1 to 30 carbon atoms in total.

5. (withdrawn-currently amended): A The microcapsule according to claim 1, comprising a diazo compound or an electron-donating dye precursor.

6. (withdrawn-currently amended): A The microcapsule according to claim 2, comprising a diazo compound or an electron-donating dye precursor.

7. (currently amended): A heat-sensitive recording material comprising a heat-sensitive recording layer formed on a support, the heat-sensitive recording layer ~~including~~ comprising (i) a coupler and a microcapsule containing a diazo compound, or (ii) a color developing agent and a microcapsule containing an electron-donating dye precursor,

wherein the microcapsule containing the diazo compound or the electron-donating dye precursor is produced using at least an isocyanate compound that is a reaction product of (A) a compound having at least two isocyanate groups in a molecule with (B) a polyether ~~derivative~~ compound having two or more functional groups each having an active hydrogen atom at one terminal thereof and a polyether moiety that has a degree of polymerization in the range of 10 to 500.

8. (currently amended): ~~A~~ The heat-sensitive recording material according to claim 7, wherein the polyether ~~derivative compound~~ is represented by the following general-formula (1):

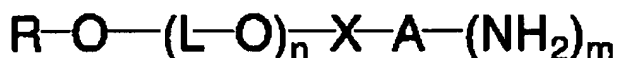


wherein X represents a single bond, -CO- or -SO₂-; A represents an arenetriyl or arenetetrayl group, or an alkanetriyl or alkanetetrayl group based on the selection of m selected from 2 or 3; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; and n is an integer of 10 to 500.

9. (currently amended): A multicolor heat-sensitive recording material comprising a heat-sensitive recording layer that develops cyan, a heat-sensitive recording layer that develops magenta and a heat-sensitive recording layer that develops yellow, formed on a support, each of the heat-sensitive recording layers ~~including comprising~~ (i) a coupler and a microcapsule containing a diazo compound; or (ii) a color developing agent and a microcapsule containing an electron-donating dye precursor,

wherein at least one kind of microcapsule containing the diazo compound or the electron-donating dye precursor is produced using at least an isocyanate compound which is a reaction product of (A) a compound having at least two isocyanate groups in a molecule with (B) a polyether ~~derivative compound~~ having two or more functional groups each having an active hydrogen atom at one terminal thereof, and a polyether moiety that has a degree of polymerization in the range of 10 to 500.

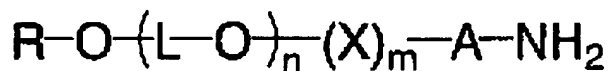
10. (currently amended): ~~A~~The multicolor heat-sensitive recording material according to claim 9, wherein the polyether ~~derivative compound~~ is represented by the following ~~general~~-formula (1):



~~General~~-formula (1)

wherein X represents a single bond, -CO- or -SO₂-; A represents an arenetriyl or arenetetrayl group, or an alkanetriyl or alkanetetrayl group based on the selection of m selected from 2 or 3; L represents an alkylene group; R represents an alkyl group, an aryl, or an acyl group; and n is an integer of 10 to 500.

11. (withdrawn-currently amended): A microcapsule having a polyurea or a polyurethane/urea wall, obtained by polymerization of an isocyanate compound with a compound having an active hydrogen atom, wherein at least one kind of the isocyanate compound is a reaction product of (1) a isocyanate compound having at least two isocyanate groups with (2) a polyether ~~derivative compound~~ having a terminal amino group represented by the following ~~general~~-formula (1'):



~~General~~-formula (1')

wherein X represents -CO- or -SO₂-; A represents an arylene group, or an alkylene group; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; m is an integer of 0 or 1; and n is an average additional molar number of a polyether group in the range of 10 to 500.

12. (withdrawn-currently amended): A-The microcapsule according to claim 11, wherein in ~~general~~-formula (1'), A represents an arylene group, and m is an integer of 1.

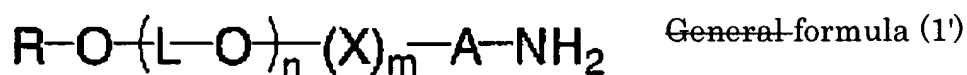
13. (withdrawn-currently amended): A-The microcapsule according to claim 11, wherein in ~~general~~-formula (1'), a group represented by -(X)_m-A-NH₂ is selected from the group consisting of an aminoethyl group, an aminopropyl group, a 4-aminobenzoyl group, a 3-aminobenzoyl group, a 4-aminobenzensulfonyl group, an aminoacetyl group, and an aminoethylsulfonyl group.

14. (withdrawn-currently amended): A-The microcapsule according to claim 11, wherein in ~~general~~-formula (1'), a moiety represented by -(L-O)_n- is selected from the group consisting of polyethylene oxide, polypropylene oxide, polytetramethylene oxide, polystyrene oxide, polycyclohexylene oxide, a polyethylene oxide-polypropylene oxide-block copolymer, and a polyethylene oxide-polypropylene oxide random copolymer.

15. (withdrawn-currently amended): A-The microcapsule according to claim 11, comprising a diazo compound or an electron-donating dye precursor.

16. **(withdrawn-currently amended):** ~~A~~The microcapsule according to claim 12, comprising a diazo compound or an electron-donating dye precursor.

17. **(currently amended):** A heat-sensitive recording material comprising a support and a heat-sensitive recording layer ~~including~~comprising (1) a microcapsule containing a diazo compound, and a coupler; or (2) a microcapsule containing an electron-donating dye precursor, and a color developing agent; the heat-sensitive recording layer being formed on the support, wherein the microcapsule contains a diazo compound or an electron-donating dye precursor, has a polyurea or a polyurethane/urea wall and is produced by polymerization of an isocyanate compound with a compound having an active hydrogen atom, and at least one kind of the isocyanate compound that is used is a reaction product of (1) an isocyanate compound having at least two isocyanate groups with (2) a polyether ~~derivative~~compound having a terminal amino group represented by the following ~~general~~ formula (1'):

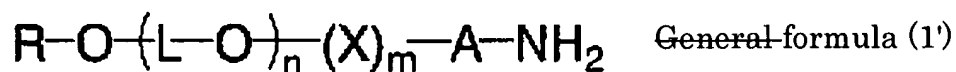


wherein X represents -CO- or -SO₂-; A represents an arylene group, or an alkylene group; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; m is an integer of 0 or 1; and n is an average additional molar number of a polyether group in the range of 10 to 500.

18. (currently amended): ~~A~~ The heat-sensitive recording material according to claim 17, wherein in general-formula (1'), A represents an arylene group, and m is an integer of 1.

19. (currently amended): A multicolor heat-sensitive recording material comprising a support and heat-sensitive recording layers in cyan, magenta and yellow, respectively, formed on the support, each of the heat-sensitive recording layers ~~including~~ comprising (1) a microcapsule containing a diazo compound, and a coupler; or (2) a microcapsule containing an electron-donating dye precursor, and a color developing agent,

wherein at least one kind of the microcapsule contains a diazo compound or an electron-donating dye precursor, has a polyurea or a polyurethane/urea wall, and is produced by polymerization of an isocyanate compound with a compound having an active hydrogen atom, and at least one kind of the isocyanate compound that is used is a reaction product of (1) an isocyanate compound having at least two isocyanate groups with (2) a polyether ~~derivative~~ compound having a terminal amino group represented by the following general formula-(1'):



wherein X represents -CO- or -SO₂-; A represents an arylene group, or an alkylene group; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; m is an integer of 0 or 1; and n is an average additional molar number of a polyether group in the range of 10 to 500.

20. (currently amended): ~~A~~ The multicolor heat-sensitive recording material according to claim 19, wherein in ~~general~~-formula (1'), A represents an arylene group, and m is an integer of 1.